REMARKS

Claim 1, the only independent claim pending, is currently amended in response to the latest Office Action. Dependent claims 2 – 3 were amended in a previous office action and currently stand rejected. Dependent claims 4 – 17 are presented as they were originally filed, with no changes made. They also stand rejected by the latest Office Action.

On page 2 numbered paragraph 2 of the Office Action, the Examiner rejects claims 1 – 17 under 35 USC 103(a) as being unpatentable over Murschall et al. (DE 19630599) in view of Oishi et al. (U.S. Pat. No. 5936048) and Rogers et al. (U.S. Pat. No. 5,804,624). Specifically, the Examiner states that it would have been obvious to one of ordinary skill in the art to add a 5 – 40% of a flame retardant such as DMMP as taught by Oishi et al. to the polyethylene terephthalate film taught by Murschall et al. In light of the amendments to the claims, and the comments presented hereto, this rejection is respectfully traversed.

The Murschall reference, unlike the current invention, is not directed to polyester films at all but rather to unoriented cast sheeting, as stated on page 4 lines 34 – 38. According to Murschall example 1, this cast sheeting is to be an amorphous sheet that is 4mm thick. The film of the current invention however, is a biaxially oriented film with a thickness of only 5 - 300µm.

The Murschall reference that the Examiner is citing has to do solely with cast sheets that are unoriented. See Murschall page 4 lines 34 – 38. Orienting a film has the effect of changing the mechanical properties of the newly oriented film. Indeed, the Applicant states that the present film should possess good mechanical properties, including "a high modulus of elasticity (EMD>3200 N/mm2), and also good tear strengths (in MD>100 N/mm2; in TD > 130 N/mm2)." See Application as filed, page 2 paragraph 4. The orienting process has a direct effect on the modulus of the resulting

film, a property that is almost nonexistent in unoriented cast sheeting. Modulus describes a material's inherent ability to resist stretch. Initial modulus is usually expressed as grams of load per unit of stretch for a certain amount of weight. The higher the initial modulus, the less the film will stretch. The orienting process increases the modulus of the film by aligning the molecules into a "prestretched" state. Thus, when forces are applied to the film, it has a much higher tendency to reduce the stress without deforming. A cast sheet however, does not undergo orientation, has a lower modulus, and will therefore experience significant deformation when exposed to similar stresses.

Orienting a film also aligns the molecules therein into an organized crystalline structure, a structure that is not preferred in cast sheeting according to Murschall page 4, lines 34 – 38. This is beneficial to the film's tenacity, the tensile stress at rupture, as well. In contrast, the tenacity and modulus of an unoriented cast sheet are almost nonexistent. The only thing that keeps the cast sheeting of the Murschall reference from breaking under its own weight is its increased thickness.

Consistent with the lack of these physical properties, Murschall only offers one test that attempts in any way to quantify the strength of the cast sheet, and that is the "hammer hitting" test as outlined on page 7 of the reference. According to the results, the cast sheet does not crack when subjected to this impact testing. This concern with impact testing can hardly be analogized to the flexible film of the current invention.

Additionally, the current invention utilizes oriented film, and is still able to maintain a low degree of yellowness. While this difference may seem inconsequential at first, after examining the process used to orient the film, one skilled in the art can easily appreciate the merits of the current invention that are not obvious in view of Murschall.

Yellowing in the creation of polymeric films largely occurs due to a scorching of the polymer, which occurs when heating the film. However, heating of the film is necessary at some points in the production process. Polycondensation generates quite a

bit of heat that can yellow the polymer. Extruding the polymer into sheets requires heating the film to its melting point. Orienting the film also involves heating a film to its glass transition point, and them stretching it to orient the film molecules in a given direction. Many films are oriented in both the longitudinal and axial directions, and while some manufactures are capable of orienting in both planes simultaneously, this is mostly done in two separate steps. First the film is heated and oriented in the longitudinal direction, and then cooled. The same film is then reheated and oriented in the axial direction, and thereafter cooled. Additionally, oriented films have to be heat set after the orientation process. This again requires the heating of the film.

The Applicant has amended claim 1 so as to further point out and clarify this difference between the current invention and that of the Murschall reference. Claim 1 now reads "A transparent biaxially oriented film...." As such, the Murschall reference to cast sheeting no longer applies. Support for this limitation can be found in the Application as filed on page 1 paragraph 1, and on page 2 paragraphs 2 and 5.

It should also be pointed out that the Oishi and Rogers references cited by the Examiner seem also to deal with unoriented resin compositions. Oishi speaks to the preparation of a resin for use in oils waxes and rubbers. See Oishi column 1 lines 1 – 10. Rogers discloses the use of an improved polyester composition useful in fibers, thermoformed articles, containers, sheeting and films. See Rogers column 2 lines 29 – 33. Rogers does not mention the orientation of these films or other articles. However, assuming for the sake of argument that either the Oishi or Rogers' reference did mention orienting the film, they still would not be able to be combined with the Murschall reference for the very reason that Murschall cannot be used to obviate the present invention. Cast sheeting and biaxially oriented films are not the same creature. They have totally different physical properties and cannot be compared to one another.

Applicant draws out this distinction to an even greater degree when the dependent claims are examined. Claims 15 – 17 are directly related to the physical properties of the

biaxially oriented film that would not be present in the unoriented cast sheeting of a thickness that Murschall is claiming. In fact, the Murschall cast sheeting is over 10 times the thickness of the current film. See Murschall, example 1. While this difference is not specified in the Applicant's claims, it is a difference that is directly related to the orientation of the Applicant's film as opposed to the amorphous structure of Murschall's cast sheeting. The cast sheeting would break under its own weight if it were manufactured to a thinness of the Applicant's film. This is the reason for the order of magnitude difference in its thickness – to provide structural rigidity to the sheet.

As this is was the only rejection that the Examiner had in the latest office action, the Applicant believes that all claims presented are now in condition of allowance, and such favorable action is respectfully requested.

It is not believed that fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional fees are necessary to allow consideration of this paper, the fees are hereby authorized to be charged to Deposit Account No. 50-2193.

Respectfully submitted,

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